

FINAL

STATE OF INDIANA

COMBINED SEWER OVERFLOW STRATEGY

Indiana Department of Environmental Management  
Office of Water Quality  
Pretreatment & Urban Wet Weather Section  
CSO Group

May 1996



## **INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

### **Final Combined Sewer Overflow (CSO) Strategy**

**Agency: Indiana Department of Environmental Management (IDEM).**

#### **Action: Final CSO Strategy**

**Summary:** IDEM has amended its Combined Sewer Overflow Strategy to incorporate changes made in the federal Combined Sewer Overflow (CSO) Control Policy, as issued by the Environmental Protection Agency (EPA) on April 19, 1994. 59 FR 18688. IDEM's Combined Sewer Overflow Strategy was previously adopted in February, 1991. This amended strategy establishes a consistent State approach for controlling discharges from CSOs to the waters of the State through the National Pollutant Discharge Elimination System (NPDES) permit program. This strategy is agency guidance only and does not establish or affect legal rights or obligations. It does not establish a binding norm and is not finally determinative of the issues addressed. Agency decisions in any particular case will be made by applying the law and regulations on the basis of specific facts when permits are issued.

**Requests for Information:** Request for information on the Strategy should be submitted to Reggie Baker, Office of Water Quality, Permits Section, Special Projects Group, Indiana Department of Environmental Management, 100 N. Senate Avenue, Box 6015, Indianapolis, Indiana 46206-6015, or by calling (317) 232-8760.

### **I. Summary and Explanation of Today's Action**

#### **1. Background**

A combined sewer system (CSS) is a wastewater collection system that conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW). A CSO is the discharge from a CSS at a point prior to the POTW. CSOs are point sources subject to NPDES permit requirements including both technology-based and water quality-based requirements of the CWA. (Montgomery Environmental Coalition vs. Costle, 646 F.2d 568 (D.C. Cir. 1980).)

The main purpose of the Final CSO Control Strategy is to modify Indiana's Combined Sewer Overflow Strategy, issued in 1991, to reflect changes made in the Environmental Protection Agency's (EPA's) National CSO Control Strategy, published on September 8, 1989, and subsequently revised on April 19, 1994 (59 FR 18638) and to address specific State priorities. This revised strategy will expedite compliance by CSO permittees with the requirements of the Clean Water Act (CWA) and IDEM's goal that all State surface waters meet Indiana Water Quality Standards by 2005. Attainment of the goals of the Final CSO Strategy will be achieved through the implementation of phased controls found in an Approved CSO Operational Plan and Long-term Control Plan. The implementation of phased long-term CSO controls may extend through one or more permitting cycles.

This Strategy provides guidance to both permittees with CSO outfalls and IDEM. The guidance includes coordination of the planning, selection, and implementation of CSO controls that meet the requirements of the CWA and allow for public involvement during the decision-making process. The Strategy also contains provisions for developing appropriate, cost-effective, site-specific NPDES permit requirements for all combined sewer system systems (CSS) that overflow as a result of wet weather events.

The permitting provisions of the Strategy were developed as a result of extensive input received from key stakeholders during a cooperative dialogue. The CSO stakeholders included representatives from Indiana CSO communities of all sizes, an environmental group, the Chamber of Commerce, and the Ohio River Valley Water Sanitation Commission (ORSANCO). The cooperative dialogue was facilitated during 1995 by the Office of Water Quality, Permit Section, Special Projects Group.

To ensure that CSO Controls are cost-effective and meet the objectives of the CWA, the following key principles were also addressed within the Policy:

1. Provide clear levels of control that would be presumed to meet appropriate health and environmental objectives;
2. Provide sufficient flexibility to municipalities, especially financially disadvantaged communities, to consider the site-specific nature of CSOs and to determine the most cost effective means of reducing pollutants and meeting CWA objectives and requirements;
3. Allow a phased approach to implementation of CSO controls considering a community's financial capability; and
4. Review and revision, as appropriate, of WQS and their implementation procedures when developing CSO control plans to reflect the site-specific nature of wet weather impacts of CSOs.

## **2. Major Provisions**

The major provisions of the Policy are as follows:

I. CSO permittees should, if not already completed, immediately undertake a process to (1) demonstrate implementation of minimum technology-based controls identified in the Strategy, (2) accurately characterize their CSS and CSO discharges, and (3) develop long-term CSO control plans based on the characterization process which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses. Once the long-term CSO control plans are completed, permittees will be responsible to implement the plans' recommendations as soon as practicable.

II. IDEM will issue/reissue or modify permits, issue administrative orders, or letters of violation, as appropriate, to require compliance with the technology-based and water quality-based requirements of the CWA. IDEM will ensure the implementation of the minimum technology-based controls and incorporate a schedule into an appropriate enforceable mechanism, with appropriate compliance dates, to implement the required long-term CSO control plan. Schedules for implementation of the long-term CSO control plan may be phased based on the relative importance of adverse impacts upon, human health, water quality and on a permittee's financial capability.

III. EPA is developing extensive guidance to support the National Policy and will announce the availability of the guidance documents and other outreach efforts through various means, as they become available. The Strategy requires that permittees meet with IDEM staff in order to facilitate the development, implementation, and documentation of necessary control measures.

## **3. Applicability of Strategy**

The permitting provisions of this Strategy will serve as guidance for all CSSs that overflow as a result of storm water flow, including snow melt runoff. Permittees will be expected to comply with any existing CSO-related requirements in NPDES permits, consent decrees, court orders, or agreed orders consistent with this Strategy.

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## **I. Introduction**

### **A. Purpose and Principles**

In accordance with the United States Environmental Protection Agency's (USEPA) National Combined Sewer Overflow (CSO) Control Policy, published April 19, 1994, the Indiana Department of Environmental Management (IDEM), in cooperation with the State's CSO communities, has amended Indiana's CSO Strategy to bring Indiana's CSOs into compliance with the requirements of the Clean Water Act and the IDEM's goal of all State surface waters meeting Indiana's water quality standard by 2005. Attainment of the goals of the Final CSO Strategy will be achieved through the implementation of phased controls found in an Approved CSO Operational Plan and a Long-term Control Plan. The implementation of phased long-term CSO controls may extend through one or more permitting cycles.

A combined sewer system (CSS) is designed, constructed, and operated to carry both sanitary sewage and storm water runoff. Diversion structures are devices within the CSS that during dry weather conditions divert sanitary sewage to a POTW for treatment. During wet weather events, flows often exceed the capacity of the wastewater treatment facility, sewer system and diversion devices, resulting in a combination of sewage, industrial flows and storm water discharge to surface waters via CSO outfalls. These overflows can cause water quality standard violations and designated use impairment in receiving waters.

The primary objectives of the Strategy amendments are to minimize human health and water quality impacts and to minimize the total loading of pollutants discharged from the entire wastewater treatment system during wet weather and not increase the discharge of pollutants above current levels.

In an effort to initiate a consistent national approach to controlling CSOs, the U.S. EPA's National CSO Control Strategy was released August 10, 1989, as 54 CFR 37370. It listed three required objectives:

1. To ensure that if CSO discharges occur, they are only as a result of wet weather;
2. To bring all wet weather CSO discharge points into compliance with the technology-based and water quality-based requirements of the Clean Water Act (CWA) and;
3. To minimize human health, water quality, and aquatic biota impacts from CSOs.

All States were required to develop CSO strategies to accomplish the objectives of the National Strategy by January 15, 1990. Representatives of Indiana CSO communities and staff from the Office of Water Quality met in 1989 to prepare and negotiate a CSO Strategy for the State of Indiana. The State of Indiana's CSO Strategy was approved by USEPA in 1990.

Presently, NPDES permits for Publicly Owned Treatment Works (POTWs) are required to include a listing of all known CSO outfalls. The permittee may request the CSO outfalls not be included in the POTW's permit but rather in a separate NPDES permit issued to the CSO controlling entity.

Provisions within Indiana's 1990 CSO Strategy required permittees to: develop and implement a CSO Operational Plan to provide site specific controls that will help reduce pollutant discharges; complete a CSO monitoring program to determine the effectiveness of the Plan implementation; revise and review their Sewer Use Ordinance; and complete an instream sampling program and/or an instream biological survey to identify and quantify the CSO impact on the receiving water(s). The purpose of this instream study was to aid in the identification of problem CSOs. However, requirements for correcting CSOs that were in violation of the Clean Water Act (CWA), applicable State laws, and regulations were not adequately addressed.

Issuance of NPDES permits that include previously unknown or unpermitted CSOs, as well as permits which previously did not contain CSO control language, will continue to be a program priority. These conditions may be addressed via permit modifications, administrative orders and permit renewals.

Permit renewals are necessary due to State policy which does not permit modifications to expired permits. Permits are scheduled for renewal on a five year rotation based on the State's Basin Plan. To include updated CSO controls in NPDES permits it is necessary to vary from the Basin Plan in order to ensure compliance with the January 1, 1997, deadline in the National CSO Policy.

## **II. IDEM Objectives for Permittees**

### **A. Overview**

The USEPA included further provisions within the 1994 National Policy. Phase I requires that the nine minimum controls be implemented. These controls, which are technology-based, are determined on a best professional judgement basis to establish best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT). These required controls, based upon evaluation, must be implemented and documented by January 1, 1997. These are evaluated on amount of pollution reduction versus cost. This phase will also include the initial step of characterization for the development of a long-term control plan.

To ensure that CSO Controls are cost-effective and meet the objectives of the CWA, the following key principles were also addressed within the Policy:

1. Provide clear levels of control that would be presumed to meet appropriate health and environmental objectives;
2. Provide sufficient flexibility to municipalities, especially financially disadvantaged communities, to consider the site-specific nature of CSOs and to determine the most cost effective means of reducing pollutants and meeting CWA objectives and requirements;
3. Allow a phased approach to implementation of CSO controls considering community's financial capability; and
4. Review and revise, as appropriate, of WQS and their implementation procedures when developing CSO control plans to reflect the site-specific nature of wet weather impacts of CSOs.

### **B. Implementation of the Nine Minimum Controls**

The following six minimum control measures were the cornerstone controls within the 1989 National CSO Strategy and the 1991 Indiana CSO Strategy :

1. Proper operation and regular maintenance;
2. Maximum use of the collection system for storage;
3. Review and modification of pretreatment programs;
4. Maximization of flow to the POTW for treatment;
5. Prohibition of CSO discharges during dry weather; and
6. Control of solid and floatable materials in CSO discharges.

Implementation of the 1989 Strategy has resulted in progress towards controlling CSOs. However, EPA has since recognized that further elaboration on the Strategy is necessary in order to expedite CSO compliance with the requirements of the Clean Water Act (CWA). This has resulted in the finalization of a new national policy to control CSOs. EPA's National Combined Sewer Overflow Control Policy was published on April 19, 1994 (59 CFR 18688). Three new control measures were added to the original six:

7. Pollution prevention programs;

8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and
9. Monitoring to effectively characterize CSO impacts, and the efficacy of CSO controls.

Selection and implementation of the actual control measures should be based on site-specific considerations including the specific CSS's characteristics. The examples of each minimum control listed below are not the only control options available to the permittee, but merely examples to be used as guidance.

Proper operation and maintenance programs consist of regular inspections and timely maintenance. Maximizing the use of the collection system for storage could include modeling, adjusting weir heights, the installation of baffles and street inlet size reduction. All industrial users that use the CSS should be identified and their discharges characterized. Additionally, steps should be taken by the industries to reduce pollutants entering the system. Bottlenecks and obstructions which restrict the flow to the WWTP should be identified and corrective action taken. Dry weather discharges are prohibited.

If dry weather discharges occur, the causes should be identified and corrective action taken. The control of solids and floatables is necessary. Steps could include screening, first flush controls and catch basin cleaning. Programs to reduce the amount pollutants introduced into the CSS should be identified and/or developed. Public notification programs which, at a minimum include signage for CSOs located in sensitive areas, should be developed to ensure that the public receives the necessary information pertaining to the health risks and CSO impacts. These signs should contain the following information: a header stating "NOTICE" followed by "This is a combined sewer overflow outfall. This water can become polluted during or after rain events or snow melt. In the event of discharges from this outfall during dry weather or for more detailed information please call [local sewer authority and phone number]. CSO outfall [#]".

Additional signage should be included in areas of frequent human contact such as public access areas located along receiving streams which receive discharges from CSOs. The use of monitoring to effectively characterize CSO impacts and the efficacy of CSO controls is discussed in detail in Part 2 of this section.

#### 1. Operational Plan Requirement

The means to implement and document the nine minimum controls will be included in two documents. The first eight controls will be addressed in the requirement for the Operational Plan. This Plan is essentially an operation and maintenance handbook. The U.S. EPA Region V has prepared a document to aid municipalities, principally those small to moderately sized, in the development of their Operational Plan. Copies of this "Technical Guidance for Use in the Development of a Combined Sewer Operational Plan" document can be obtained upon request, from the Indiana Department of Environmental Management, Office of Water Quality, Permits Section, Special Projects Group, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. In addition, a copy of the checklist employed to initiate the review of Operational Plans will be included. Other guidance documents available from the above address are as follows: EPA's "Example of an Operational Plan" and "Guidance for Nine Minimum Controls." The ninth minimum control will be addressed within the Stream Reach Characterization Evaluation Report.

#### 2. The Protocol for the Stream Reach Characterization and Evaluation.

The ninth minimum control is: "Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls." The Permittee shall submit a protocol for determining the characterization of impacts of CSO discharges upon the receiving stream(s) for a defined Stream Segment as part of permittee's CSO Phase I requirements. The assigned Stream Segment includes the point from the most upstream CSO Outfall (or plant outfall) of each receiving stream, downstream to the next assigned segment. The Special

Projects Group (SPG) will consider requests to change the downstream point if the Permittee can offer justification for such a change. The protocol must include the methods for determining instream impacts.

The SRCER is used to demonstrate the characteristics of CSO impacts and the efficacy of the CSO controls implemented under the CSO Operation Plan. It can also be used for establishing baseline data necessary to evaluate and select the appropriate long-term CSO controls. The SRCER will include the following information: (1) rainfall events; (2) frequency and duration of wet weather overflows; (3) a characterization of the CSS which identifies pollutant sources both upstream and within the assigned stream segment and evaluation of efficacy of implemented CSO control on the receiving water(s); and (4) a list containing municipalities, sensitive areas and recreational facilities which could be adversely affected by CSO discharges originating in the permittees' assigned stream segment. It is recommended, and may be necessary, to include: (1) Fish Consumption advisories; (2) bacteria & health alerts; (3) fish kills; (4) toxic or hazardous spills; or (5) overflow volume of monitored points.

Information on fish kills, toxic or hazardous spills and bacteria/health alerts may be available from the Indiana State Department of Health, county boards of health, the Office of Environmental Response, the Indiana Department of Natural Resources, the Ohio River Valley Sanitation Commission (ORSANCO), or the USEPA. Descriptions of the type, duration, and cause of advisory or alert cause, if known, shall be included.

The IDEM may assist the permittees in the development of the SRCER in ways including:

- a. IDEM staff may meet with the permittee to discuss/clarify requirements prior to development of SRCER;
- b. Provide technical guidance and available information which may include stream monitoring, modeling, and spill advisory data for the stream reach in question; and
- c. Participate in a coordinated public information program with the permittee.

### 3. Implementation and Documentation

Verification of the community's implementation of Best Operation and Maintenance practices addressed in an approved CSO Operational Plan will be included in the (SRCER). The SRCER will be used to determine the long-term CSO controls needed to meet the requirements of the CWA and the WQS. Outfalls from which CSOs continuing to have adverse impacts on the receiving stream(s) occur, will be prioritized to facilitate elimination, relocation, or correction in order to comply with WQS.

Cooperation, early in the process, is necessary to ensure that environmental and financial goals are met. Representatives from the Special Projects Group (and other IDEM groups as requested) will assist the permittee throughout the development and implementation of the SRCER and long-term control plans.

The results of this study shall be included in a SRCER to be submitted to the NPDES Special Projects Group of OWQ. The SRCER should be utilized to characterize CSO impacts and the efficacy of CSO controls listed within the Operational Plan as well as providing baseline conditions for determination of necessary long-term CSO controls. The results from this report will aid in determining the extent of long-term CSO controls needed to comply with the Clean Water Act (CWA) and applicable State laws and regulations. If a determination cannot be made, the permittee may be required to perform additional testing of individual CSO outfalls to determine water quality impacts. The necessary long-term controls shall be contained within a Long-Term Control Plan (LTCP) found in Part VI. The LTCP shall be submitted in accordance with the Schedule of Compliance within the Attachment A of the permittees NPDES Permit.

Within the SRCER, the permittee shall make a recommendation as to the proper course of action (i.e. continued use of best operation and maintenance or construction). The recommendation is based on best professional judgement. It shall include a discussion of different alternatives, their impacts, and their associated costs.

The monitoring of the stream reach shall be an ongoing process. Following the submittal of the SRCER, subsequent reports shall be submitted as part of the permittee's renewal application or more frequently if necessary. These reports should act as guidelines to allow the permittee to update and tailor the necessary level of CSO control.

Characterization does not specifically require a sampling or Biomonitoring program. Other methods of system and effluent characterization will be considered. Approval will be granted if those methods are considered effective for the determination of impacts.

Where there are data that demonstrate the inadequacy of the nine minimum controls in attaining WQS, the permittee is required to immediately develop a long-term control plan. Where there are data that clearly demonstrates implementation of the nine minimum controls is sufficient for attaining WQS, a long-term control plan is also required. However, the extent of this plan may be limited to the continued implementation of the nine minimum controls and stream reach monitoring to verify the continued adequacy of the minimum controls.

These CSO control requirements are, and have been, implemented through NPDES Permits upon renewal modification or through the Operational Plan and its approval process.

Controls 1 through 8 are implemented and documented through the development and use of the Operational Plan. Documentation of the nine minimum controls may include operation and maintenance plans, revised sewer use ordinances, sewer system inspection reports, infiltration/inflow studies, pollution prevention programs, public notification plans, and facility plans for maximizing the capacities of the existing collection and treatment systems, as well as contracts and schedules for construction programs for improving the existing system's operation. Verification of the implementation and the efficacy of the controls are included in the SRCER. The ninth minimum control is addressed in Attachment A, Section III.

The development and implementation of the CSO Operational Plan is one critical step in ensuring that a CSO permittee complies with the nine minimum control measures referenced as BCT/BAT, within USEPA's National CSO Control Policy. The intent of the nine minimum controls is to provide cost effective, site specific controls that will help to reduce CSO pollutant discharges or water quality impacts from CSOs.

Once submitted, the Protocol, the Operational Plan and the SRCER will be reviewed for accuracy and fulfillment of the permit requirements. Subsequent to the review and discussions with the community, the NPDES permit may be modified to incorporate site-specific requirements and detailed schedules of compliance found within the Operational Plan. A number of Operational Plans have been submitted, reviewed and approved. A checklist has been developed by the Special Projects Group to expedite the review of the documents. A copy of the checklist is available upon request.

#### 4. Sewer Use Ordinance Review/Revision

The permit requires municipalities to revise their Sewer Use Ordinance to: (a) prohibit introduction of any inflow (in contrast to infiltration) to any sanitary sewer; (b) prohibit construction of any new combined sewers; (c) require new construction be designed to minimize or delay inflow, if at all possible, to the existing combined sewer; and (d) provide that for any new building the inflow/clear water connection to a combined sewer shall be made separate and distinct from the sanitary waste connection to facilitate the disconnection of the former if a separate storm sewer subsequently becomes available. Additionally, modifications to the Sewer Use Ordinance may be necessary to require the disconnection of clear water inflow sources if adverse impacts leading to WQS violations continue after the implementation of the nine minimum controls.

#### C. Long-Term Control Plan

Municipalities are required to develop and implement a Long-Term Control Plan (LTCP). The first step of the LTCP is fulfilled with the completion of the SRCER. Measures additional to the Nine Minimum Controls will, in part, be based on this study. One provision of the national policy allows communities to implement CSO controls in phases based on financial capability. Indiana's Strategy provides for inclusion of incremental steps towards reaching the requirements of the LTCP. At the discretion of IDEM, jurisdictions with populations under 75,000 may not need to complete each of the formal steps outlined below.

#### 1. Characterization, Monitoring, and Modeling of the Combined Sewer System

A complete system characterization is necessary prior to the implementation of long-term controls. The purpose of monitoring is to effectively characterize CSO impacts and the efficacy of Phase I CSO controls. A modeling program may assist the permittee in developing appropriate measures to support the development of the long-term CSO control plan. This step is to be completed in Phase I and documented in the SRCER. Characterization includes developing an understanding of the dose-response relationship of the collection system during various rain events; identification of clear water inflow sources; estimating the loads entering the CSS; determining the frequency and duration of overflows and determining water quality impacts that result from the CSO discharges. Monitoring and Modeling are tools used in characterization.

Monitoring completed in the development of the SRCER will aid in the development and implementation of a more specific monitoring plan. After a period of monitoring, modeling of the stream system may be necessary to predict the influence of various controls and aid in the selection of the most cost-effective solution to any demonstrated problems. Furthermore, the identification of available models appropriate to the system and pollutants under study, and a preliminary selection of a modeling approach should be completed. Monitoring and modeling data will be used to evaluate the effectiveness of the nine minimum controls and aid in identification of the long-term controls necessary to protect human health and to meet water quality standards.

#### 2. Public Participation

The affected public should be involved early in the planning process. The public needs to be made aware of the goals for LTCP. By continuing this involvement during development, evaluation, and selection of the control strategy, important issues can be raised and addressed without prolonged delay or additional cost.

The public participation effort may involve the formation of a citizens advisory committee comprised of representatives of both the Municipality and the public and/or open public meetings at key points throughout the phased control plan development process. Input obtained during the early phases of the CSO control program will enable a community to better develop a program that reaches a broad base of citizens.

#### 3. Consideration of Sensitive Areas

The LTCP should give the highest priority to protecting human health and controlling overflows to sensitive areas. These areas include designated Outstanding National or State Resource Waters, waters with potential for contact recreation, waters occupied by rare and/or endangered species, and public drinking water intakes or their designated protection areas. Overflows to these waters shall be eliminated whenever physically and economically achievable, except when this would cause unacceptable water quality impacts elsewhere in the system. If elimination is not a viable option, then adequate treatment may be required that will result in protection of human health and attainment of water quality standards and designated uses.

#### 4. Evaluation of CSO Control Alternatives

IDEM expects the LTCP to consider a reasonable range of alternatives. The LTCP should evaluate controls that would be necessary to achieve zero overflow events per year, one to three, four to seven, and eight to twelve overflow events per year. Alternatively, the LTCP could evaluate controls that would achieve the following percentages of capture, by volume, of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis: 100% capture, 90% capture, 85% capture, 80% capture, and 75% capture, for treatment. The LTCP should also consider expansion of POTW secondary and primary capacity in the CSO abatement alternative analysis. The analysis of alternatives should be sufficient to make a reasonable assessment of cost and performance as described in Part II.C.5., of this Strategy. Because the LTCP will become the basis for NPDES Permit requirements, the selected controls should be sufficient to meet the objectives of this Strategy. The LTCP should adopt one of the following approaches:

a. "Presumption" Approach

A program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the IDEM determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas. These criteria are provided because data and modeling of wet weather events often do not give a clear picture of the level of CSO controls necessary to protect WQS.

- i. No more than an average of four overflow events per year, provided that the permitting authority may allow up to two additional overflows events per year. For the purpose of this criterion, an overflow event is one or more overflows from a CSS as the result of a precipitation event that does not receive the minimum treatment specified below; or
- ii. The elimination or the capture for treatment of no less than 85% by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis; or
- iii. The elimination or reduction of no less than the mass of pollutants, identified as causing water quality impairment through the sewer system characterization, monitoring, and modeling effort, for the volumes that would be eliminated or captured for treatment under paragraph ii. above.

Discharge from Combined Sewer Overflows after the implementation of the nine minimum controls and the criteria specified at II.C.4.a.i. or ii above, should receive a minimum of:

Primary clarification: removal of floatable and settleable solids may be achieved by any combination of treatment technologies or methods that are shown to be equivalent to primary clarification;

Solids and floatables capture and disposal; and

Disinfection of effluent, if necessary, to meet water quality standards, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

b. "Demonstration" Approach

A permittee may demonstrate that a selected control program, though not meeting the criteria specified in Part II.C.4.a., above, is adequate to meet the water quality-based requirements of the CWA. To be a successful demonstration, the permittee should demonstrate each of the following:

- i. The planned control program is adequate to meet water quality standards and protect designated uses, unless WQS or uses cannot be met as a result of natural background conditions of pollution sources other than CSOs;
- ii. The CSO discharges remaining after implementation of the planned control program will not preclude the attainment of water quality standards or the receiving waters' designated uses or contribute to their impairment. Where WQS and designated uses are not met in part because of natural background conditions or pollutant sources other than CSO discharges, a total maximum daily load, including a wasteload allocation and a load allocation, or other means should be used to apportion pollutant loads;
- iii. The planned control program will provide the maximum pollution reduction benefits reasonably attainable; and
- iv. the planned control program is designed to allow cost effective expansion or cost effective retrofitting if additional controls are subsequently determined to be necessary to meet WQS and/or designated uses.

#### 5. Cost/Performance Evaluation

When comparing long-term control options, the permittee should develop appropriate cost/performance evaluations to establish estimated costs for providing a range of CSO control levels and help guide the selection of appropriate controls. The evaluations should determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increasing costs to correct the problem. The permittee should evaluate a wide range of control options taking into account the cost to complete each option vs. the expected long-term environmental benefits. Detailed evaluations will include all pertinent information necessary to determine the permittee's reasonable financial capability to implement CSO controls that allow the permittee to maximize environmental benefits, for every dollar spent, to accomplish the goal of meeting WQS.

#### 6. CSO Operational Plan Revisions

Once the necessary long-term CSO controls have been developed and approved by IDEM, the CSO Operational Plan should be revised to reflect necessary changes in operational procedures and in consideration of changes in Federal and State CSO Control Policy.

#### 7. Maximizing Treatment of Wet Weather Flows at the Wastewater Treatment Plant

Communities are required to maximize the treatment of wet weather flows at the wastewater treatment plant. Maximizing the treatment of wet weather flows can be a cost effective, readily implemented method to achieve an overall reduction in pollutant loadings to receiving waters.

If influent flows exceed the treatment capacity of secondary treatment systems, a partial treatment discharge may be authorized to maximize wet weather CSS flow treatment. Partial bypassing can allow the operator to maximize the wet weather combined sewer flow that receives at least primary treatment prior to discharge. The partial treatment discharge must meet the requirements of 327 IAC 5-2-8(11) and be authorized in the discharger's NPDES permit. 327 IAC 5-2-8(11)(B) allows for bypassing in the event it was unavoidable to prevent loss of life, personal injury, or severe property damage and that there was no feasible alternative to the bypass.

"Severe property damage" includes flows above a certain level washing out, or rendering ineffective, the plant's secondary treatment system. The operation of the partial treatment discharge must be addressed in the permittee's approved CSO Operational Plan and LTCP.

As part of a LTCP, it will be necessary to consider the technical and financial feasibility of constructing additional facilities to provide storage, treatment and/or bypass of wet weather flows.

## 8. Implementation Schedule

The permittee may implement the CSO control schedules in phases, based on the following factors:

- eliminating overflows that discharge to sensitive areas;
- the magnitude of adverse impacts upon water quality standards and designated uses;
- the community's financial capability;
- priorities developed through public participation; and
- previous efforts to control CSOs

## 9. Post-Construction Compliance Monitoring Program

In order to adequately verify compliance with water quality standards and designated uses, a post-construction water quality monitoring program will be required. The monitoring program, to be approved by IDEM, should include the necessary effluent and ambient monitoring. Where appropriate, the monitoring program should also include, other monitoring protocols such as biological assessments, whole effluent toxicity testing, and sediment sampling, and/or those found in the Approved Protocol and SRCER to adequately document compliance.

# III. Coordination with State Water Quality Standards

## A. Overview

This Strategy focuses on minimizing impacts from CSOs on a waters' designated use. All waters of the State have a designated use of fishable/swimmable. All waters are required to meet water quality standards associated with the designated use. Minimum Water Quality Criteria are contained within the permit and are as follows: all discharges from CSO outfalls must meet the minimum conditions of being free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges: (1) that will settle to form putrescent or otherwise objectionable deposits; (2) that are in amounts sufficient to be unsightly or deleterious; (3) that produce color, visible oil sheen, odor, or other conditions in such a degree as to create a nuisance; (4) which are in amounts sufficient to be acutely toxic to, or otherwise severely injure or kill aquatic life, other animals, plants, or humans; and (5) which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

CSO Permittees are required to provide the State with a listing of Overflow points within the NPDES Permit renewal application. The listing includes each CSO outfall's location, accurate latitude and longitude, and receiving water(s).

## B. Water Quality Standards Review

The IDEM WQS group will be involved in the long-term CSO control planning effort. The SPG will help ensure that development of the CSO permittees' long-term CSO control plans are coordinated with the review and possible revision of the WQS on CSO-impacted waters.

IDEM will coordinate the Indiana WQSs with the development of each LTCP including the following:

1. Perform triennial reviews of the WQS in the form of public hearings to review applicable WQSs and as appropriate, modify and adopt standards;
2. Re-examine designated uses of each receiving water in Indiana to determine if designated use can be attained after implementation of the BAT/BCT controls of the CWA;
3. Examine the appropriateness of partial use during wet weather conditions; and
4. Establish variance language to address CSO impact waters.

#### **IV. Enforcement and Compliance**

Discharges from CSO outfalls during Dry Weather is prohibited. The permittee shall not intentionally divert waste streams from any portion of the Publicly Owned Treatment Works (POTW) except in accordance with 327 IAC 5-2-8(B)[40 CFR 122.41(m)]. Strict adherence to the permit is required. Any Dry Weather overflows should be reported to the IDEM by phone within 24 hours and in writing within 5 days. The correspondence shall include the duration and cause of the event as well as the action taken to end the discharge. Dry Weather flow is defined in a combined sewer as any combination of domestic sewage, groundwater infiltration, commercial and industrial waste waters, and any other non-precipitation related flows. Discharges that occur because the receiving stream's elevation is at, or above, the established flood stage are not considered dry weather discharges. IDEM's CSO enforcement activities will focus on three areas: enforcement of the dry weather overflow prohibition, enforcement of CSO permit documentation requirements, and the State's Minimum Water Quality Criteria.

Citizen complaints, inspections by IDEM staff, and permit requirements to report unauthorized discharges are used to identify dry weather overflows and Minimum Water Quality Criteria violations. "Notice of Violation" letters (NOVs) are used to address occasional dry weather overflows that result from the plugging or clogging of a regulator that are quickly corrected for permittees without an Approved and Implemented CSO Operational Plan.. NOVs may not be issued in cases where a community has implemented its Approved CSO Operational Plan that includes frequent inspection of CSO outfalls and timely correction of temporary blockages. For persistent dry weather discharges, either an administrative or judicial order is used to put the permittee on a compliance schedule to eliminate the dry weather overflows. Appropriate penalties may be sought for persistent dry weather discharges.

Permits are issued which include a variety of enforceable requirements related to CSO control, including: CSO monitoring; compliance schedules for combined sewer system operational plans including implementation of the nine minimum controls; compliance schedules for the Protocol and SRCER; compliance schedules for developing and implementing a LTCP; revisions to the Sewer Use Ordinance; and the Minimum Water Quality Criteria.

NOVs are used to address violations for non-compliance of scheduled activities within approved documents when these do not affect meeting final deadlines. NOVs are used to address occasional excursions of the Minimum Water Quality Criteria. Administrative or judicial orders and appropriate penalties are used to address major delays in meeting final deadlines, or repeated violations of the Minimum Water Quality Criteria. IDEM may give consideration to communities who have voluntarily implemented programs to characterize their collection system and/or stream impacts, and who are progressing expeditiously toward appropriate CSO controls.

## V. Conclusions

A summary of the CSO documents which all CSO Communities will be responsible for submitting is as follows:

<b>Document</b>	<b>Submittal Date</b>
Protocol [1]	6 months
Operational Plan [2]	6-12 months
SR CER [3]	18 months
LTCP [4]	12-30 months

- [1] Shall be submitted six months after the effective date of the NPDES Permit, or six months from the date of conditional approval of the permittees Operational Plan, or for permittees with an approved Operational Plan as of the date of this Strategy, six months from the date of IDEM official request for the permittee to update their previously approved Operational Plan, whichever comes first.
- [2] Shall be submitted six months after the effective date of the NPDES Permit, or by the date established within an administrative order, whichever comes first.
- [3] Shall be submitted eighteen months from the date of conditional approval of the permittees Operational Plan, or for permittees with an approved Operational Plan as of the date of this Strategy, eighteen months from the date of IDEM official request for the permittee to update their previously approved Operational Plan, whichever comes first.
- [4] Shall be submitted twelve months after the submittal of the SRCER or thirty months after the conditional approval of the permittees Operational Plan, whichever comes first. For those permittees who have approved Operational Plans prior to the date of this Strategy, the LTCP will be required to be submitted twelve months after the submittal of the SRCER.

Permittees will be required to develop the long-term CSO control plan as soon as practicable, but generally within two years after the effective date of the permit provision. The IDEM may establish a longer timetable for completion of the long-term CSO control plan on a case-by-case basis to account for site-specific factors which may influence the complexity of the planning process.

Alternatively, the permittee may demonstrate to the Office of Water Quality that CSO control through implementation of the CSO Operational Plan is sufficient to meet WQS, and that further controls are not necessary. Such a demonstration must be made within the SRCER. If adequate demonstration is proven by the permittee, additional long-term CSO controls under Part IV may not be required.

The IDEM will track CSO permittee's compliance through demonstration. Thus, all CSO permittees will be required to demonstrate, within all subsequent NPDES Permit renewal applications, that all CSOs under the permittee's responsibility remain in compliance with the requirements of the NPDES Permit.

This status update will provide valuable information to the NPDES permit writer to determine if additional long-term requirements should be placed within the permit during renewal.

## VI. Definitions

**Combined Sewer Overflow (CSO)** is defined as an event in which a CSS discharges due to flow restrictions or overloading.

**CSO Outfall** is defined as the structure from which a CSO occurs.

**Combined Sewer System (CSS)** is defined as a system designed, constructed, and operated to carry both sanitary sewage and storm water runoff.

**Dry weather flow** is defined in a CSS as a combination of domestic sewage, groundwater infiltration, commercial and industrial waste waters, and any other non-precipitation related flows. Discharges that occur because the receiving stream's elevation is at or above the established flood stage are not considered dry weather discharges.

**Monitoring** is defined as the measurement of frequency, duration and flow rate of a CSO discharge.

**Sampling** is defined as physical analysis of oxygen demanding pollutants, nutrients, toxic pollutants, sediment contaminants, pathogens, bacteriological indicators and toxicity.

**Wet weather discharges** are defined as a combination of sanitary flow, industrial flow, and stormwater flow, including snow melt or as discharges caused by the receiving stream being at or above the established flood stage.